

Boat effects on the behaviour of Indo-Pacific Humpback (*sousa chinensis*) and Irrawaddy dolphins (*orcaella brevirostris*) in Cowie Bay, Sabah, Malaysia

Abstract

A series of boat surveys were conducted from April to September 2008. This work evaluated the effects of boats on Indo-Pacific Humpback and Irrawaddy dolphins. The types of boats, dolphins' interactions towards various types of boat and vessel-dolphin distance under different intensities were measured. The absence of boats sailing in the bay was considered as control situation. There was a highly significant difference in the response of Indo-Pacific Humpback ($\chi^2 = 97.1$, $df = 8$, $p = 0.000$) and Irrawaddy ($\chi^2 = 52.4$, $df = 8$, $p = 0.000$) dolphins to different classes of boats. Analyses showed that positive behaviour was the most observed behaviour towards trawlers for both dolphin species. However, Indo-Pacific Humpback ($H = 3.107$, $p = 0.540$) and Irrawaddy ($H = 4.208$, $p = 0.379$) dolphins independently associated with negative behaviour while interacting with all boat classes. Irrawaddy dolphin tend to avoid boats using outboard <40 hp engine compared to Indo-Pacific Humpback dolphin ($Z = -2.023$, $p = 0.043$). In this study, these fast moving vessels often caused immediate stress and behaviour disruption on dolphin's community especially on Irrawaddy dolphin. On the other hand, Indo-Pacific Humpback and Irrawaddy dolphins showed a high rate of neutral response towards trawlers. Even though there was no stress involved in slow moving vessels especially trawlers, there is still concern on how it will affect the animal's feeding behaviour, as dolphins always show approaching behaviour during the presence of trawlers.